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AUTHOR	Spurling, Steven
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ABSTRACT

This report examines new students enrolled in credit courses in the fall 1998 semester at City College of San Francisco, measuring student success in fall 1998 and re-enrollment in spring 1999. The sample consists first of all new students, and then students categorized by their educational origin, the number of matriculation services received, and students' placement level. It seeks to answer questions related to students taking credit versus noncredit courses, types of programs in which these students are enrolled, length of participation in these courses, matriculation services, student success and persistence among students within noncredit cohorts, impact of matriculation services on success and persistence, and placement test as indicators of student success. Highlighted findings include: (1) receipt of matriculation services at the beginning of fall 1998 was strongly related to spring 1999 persistence but not to fall 1998 success; (2) success in the fall semester and persistence to the spring were strongly related to each other; (3) 22% of new credit students in the fall semester had come from noncredit; (4) students who had more hours of attendance hours in the prior noncredit semester passed more units than students who had fewer hours; (5) students from noncredit programs had some difficulty, as measured by GPA and percentage of units passed; (6) ESL students did well; (7) success and persistence were linked to placement level for English; and (8) basic-skills students were less successful than others in terms of success and persistence. Contains 6 tables and 24 graphs. (JJL)

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CCSF'S NEW CREDIT STUDENTS

Educational Origins, Persistence and Success

City College of San Francisco

Report Prepared By:
Steven Spurling
sspurlin@ccsf.cc.ca.us

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City College of San Francisco
50 Phelan Avenue, E207
San Francisco, CA 94112

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INTRODUCTION

This report examines new students enrolled in credit courses in Fall 1998 semester at City College of San Francisco. It examines student success in Fall 1998 and re-enrollment in Spring 1999, first for all new students and then for students categorized by their educational origin (i.e. new credit students making the transition from noncredit CCSF courses versus other new students from outside the college), the number of matriculation services received, and students' placement level. It seeks to answer the following questions:

- How many new credit students came from noncredit? In what programs and on what campuses were these students enrolled? How long were they enrolled in noncredit classes and how much delay was there between their last noncredit class and their first credit class?

- How many matriculation services did new students receive?

- How successful were new students in the Fall semester and how many of these students persisted to the Spring 1999 semester? How successful and persistent were new students from noncredit compared to other new students, and within the noncredit cohort, how successful and persistent were students by their noncredit program of origin?

- What impact did the receipt of matriculation services have on success and persistence?

- For students who received mathematics and English placements, how did students do by their combined placement level? Did students who received higher English and mathematics placements do better than those students who received lower placements?

The report will present findings that address each of these questions. It will then look at the implication of these findings for policy. Last it will address the question of what additional research needs to be done to clarify and amplify these findings.

Summary of Findings and Implications

Below, findings are summarized and implications drawn. The findings are bulleted while the implications are indented. Findings are organized from most to least important.

- Receipt of matriculation services at the beginning of the Fall 1998 semester was strongly related to Spring 1999 persistence but not to Fall 1998 success. Students who had received matriculation services re-enrolled in the Spring more frequently than others who had not received services. Even when the comparison of matriculated and non-matriculated students was limited to students who enrolled in 9 or more units, students who had received matriculation services re-enrolled in Spring classes more frequently. Differences in the percent of students re-enrolling was 30 percent or higher.

  The emphasis on matriculation services may need to be increased not because it is linked to students' initial success but because it feeds their long-term success through increased persistence.

- Success in the Fall semester and persistence to the Spring were also strongly related to each other. Students who persisted to the Spring had enrolled in more units in the Fall and had more success in those units than students who did not persist.

  This suggests that CCSF needs to monitor students during their first semester and intervene if they begin to experience academic difficulties.

- Twenty-two percent of new credit students in the Fall 1998 semester had come from noncredit. This is a significant number of students.

  Recruitment and advisement strategies need to be expanded to address these students and help their transition to credit classes.

- Students who had more hours of attendance in their prior noncredit semester did slightly better in the percentage of units passed in the following Fall credit semester than students who had fewer attendance hours.

  By increasing students attendance hours in noncredit, it may be possible to increase their success and persistence in credit.

- Students from noncredit who had enrolled in multiple noncredit programs had more attendance hours in noncredit than students who had been enrolled in a single program. This was especially true of ESL students who had been enrolled in multiple programs. Their noncredit attendance hours were three times greater than ESL students who had been enrolled in only ESL noncredit classes. Non-ESL students also exhibited the same type of increased attendance hours in noncredit when enrolled in multiple noncredit programs.

  It may be possible to increase attendance hours in noncredit by encouraging multi-discipline enrollment.

- While noncredit students did well in the Fall semester in comparison to other new students, students from some noncredit programs had difficulty. Transitional studies students, in particular, had difficulty. They had GPA's of 1.98 and percent of units passed of 44%.

  The Transitional Studies program needs to be re-examined to determine what needs to be done to increase the success of Transitional Studies students in credit classes.

- ESL students did well. They passed 69 percent of their credit units and had GPA's of 2.69. This may also be a result of their relatively heavy enrollment in credit ESL classes once they had made the transition to credit. More than other students they tended to limit their credit enrollment to ESL - the program from which they had come in noncredit.

  This suggests that other disciplines, in particular Transitional Studies, may benefit from a similar program on the credit side in which noncredit students making the transition from noncredit can enroll.

- Success and persistence were also linked to placement level for English and mathematics placement test takers. Students who placed higher took more units, were more successful in the Fall and were more likely to re-enroll in the Spring.

  This suggests that noncredit students should be encouraged to reach some benchmark levels of numeracy and literacy before attempting credit programs. This might lead to higher initial placement and greater subsequent success.

- Basic-skills placed students were both less successful than others in the Fall and persisted to the Spring with less frequency than more highly placed students. Their lack of persistence was not a result of their low placement but of their lack of success in the Fall.

  Better remediation leading to greater success in an initial semester might very well lead to increased persistence.

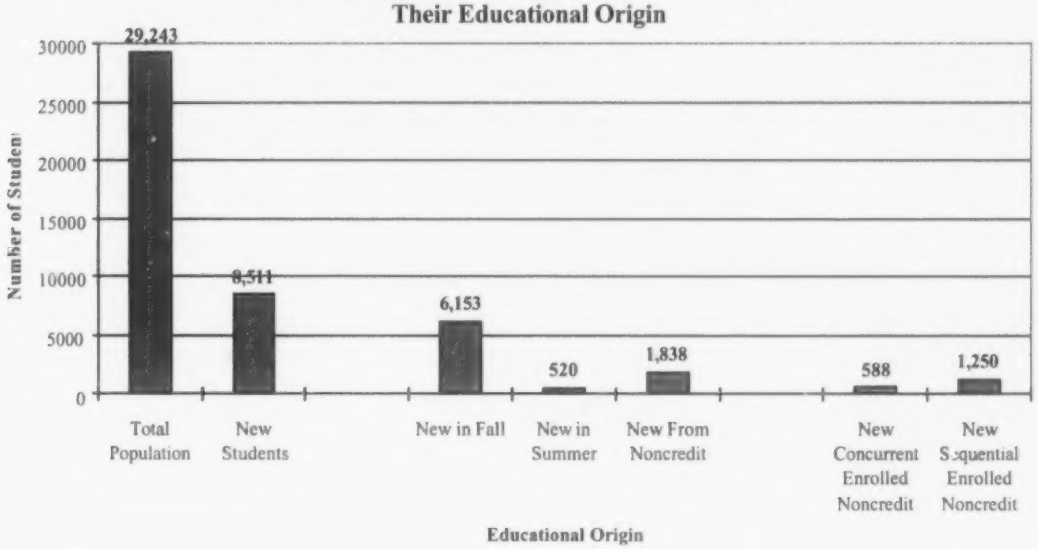
FINDINGS

New Students

In Fall 1998, there were 29,243 students enrolled in credit classes at City College of San Francisco. Of these students, 8,511 were first-time students new to credit classes. Of these new students, 6,153 of them were first-time students whose first semester was the Fall 1998 semester. Another 520 students were new but had started in the Summer 1998 term. 1,838 students were new to credit classes but had come from or were concurrently enrolled in noncredit. (588 were concurrently enrolled in credit and noncredit classes and 1,250 were sequentially enrolled - that is, they were following a prior term in noncredit with Fall credit enrollment.)

Graph 1

The Number of Students at CCSF in Credit Courses by Their Educational Origin



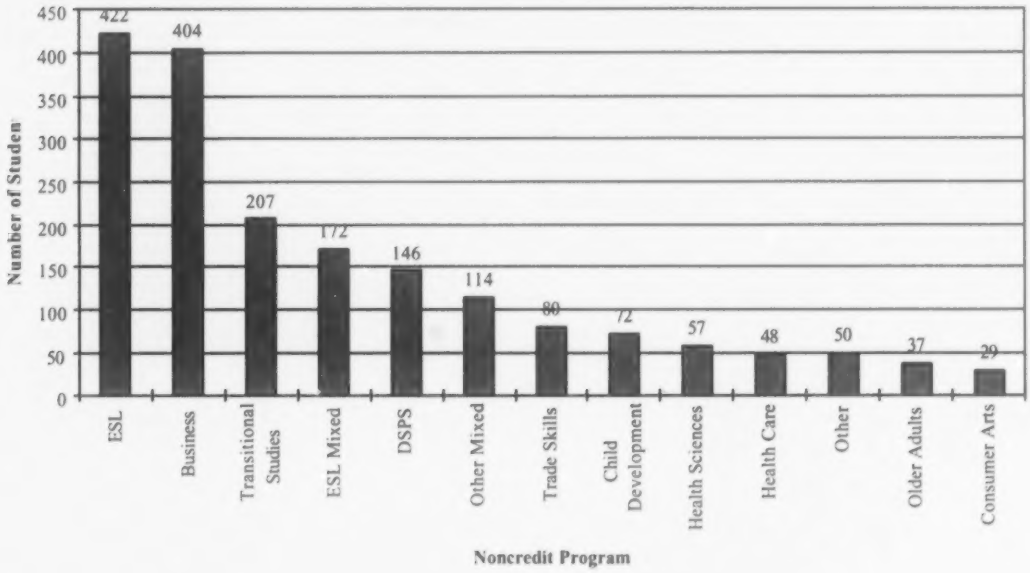
The new student population can be categorized by age, gender and ethnicity. About 20 percent of new students were in each of the following age groups: under 20, 20 to 24, 25 to 29. Smaller percents continued up to 50 years of age. There were 7 percent of new students over 50. Females comprised 56 percent of new students. For ethnicity, 33 percent were Asian, 33 percent were White, 14 percent were Hispanic and 9 percent were African American.

New Students from Noncredit

Of the 8,511 new credit students, 1,838 (22 percent) came from noncredit. These 1,838 students can be characterized by the noncredit program from which they came. Two special categories were created for those students who came from more than one noncredit program. 'ESL Mixed' was created for students who had at least some classes in noncredit ESL, and 'Other Mixed' for non-ESL students who were in more than one noncredit program. Graph 2 presents the Fall enrollment numbers for students from noncredit programs.

Graph 2

Number of Students Enrolled in Credit by Their Noncredit Program of Origin

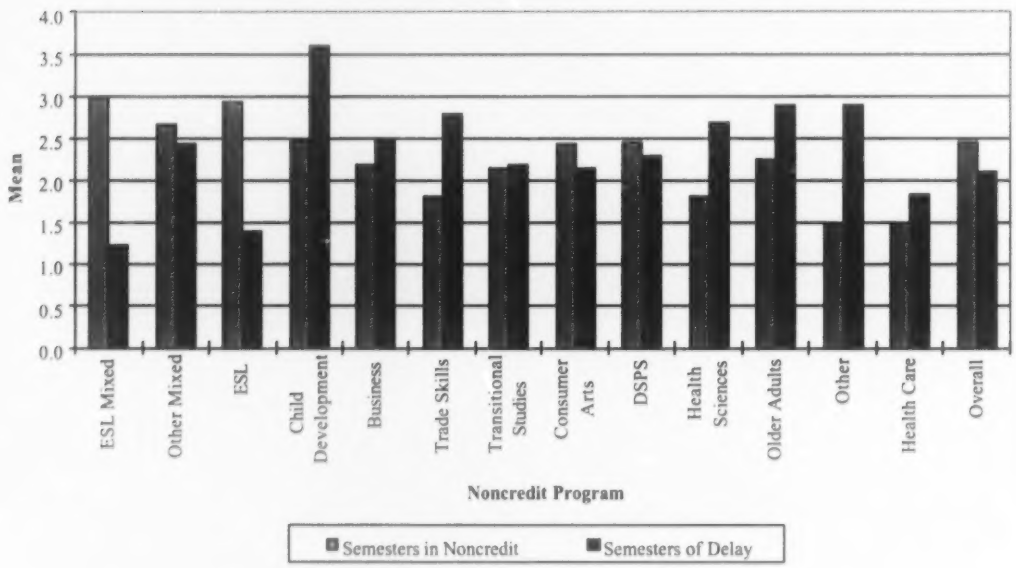


The noncredit ESL only and ESL Mixed categories were among the largest contributors to credit enrollment. Indeed, the ESL only category was the largest: it contributed 422 students to Fall credit enrollment. Other large contributors were Business (404 students) and Transitional Studies (207 students).

Graphs 3 through 6 present descriptive information about these noncredit students. Graph 3 presents, by noncredit program, the number of semesters in noncredit and the semesters of delay in credit enrollment (the semesters between the end of noncredit study and enrollment in credit). The number of semesters in noncredit averaged about two and a half. Semesters of delay averaged a little over two.

Graph 3

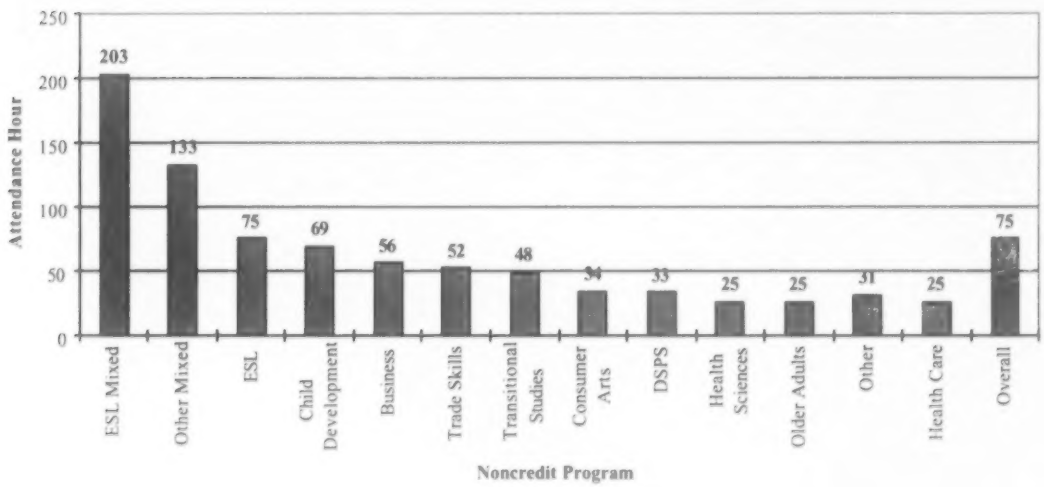
Semesters in Noncredit and Semesters of Delay to Credit Enrollment by Noncredit Program (Sequentially Enrolled Noncredit Students Only)



Graph 4 presents mean attendance hours in noncredit. Students who were enrolled in more than one program had the highest mean attendance hours. In fact, ESL students who were in more than one program had nearly triple the attendance hours (203) of ESL only students (75).

Graph 4

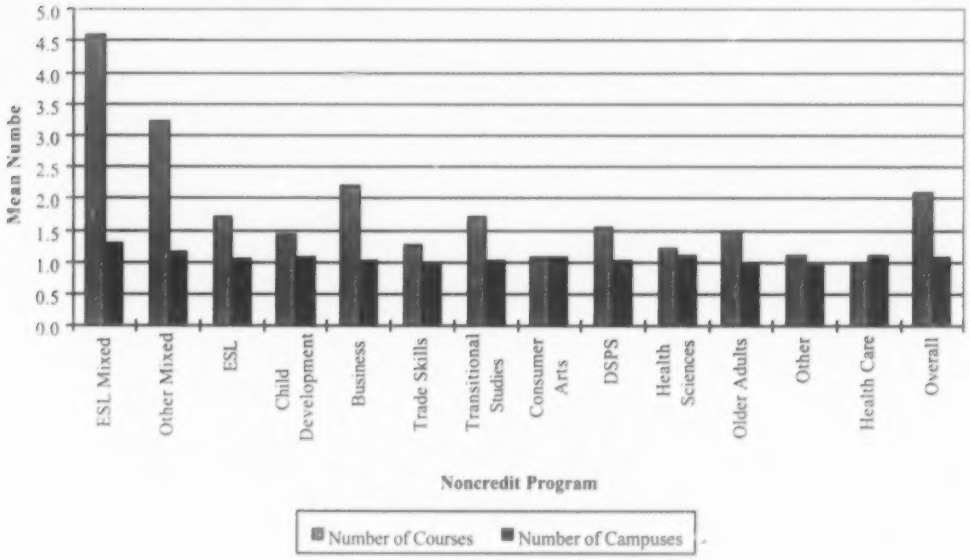
Mean Attendance Hours in Last Semester of Noncredit
By Noncredit Program (Sequentially Enrolled Noncredit Students Only)



Graph 5 presents the number of campuses and number of courses these students attended in noncredit. Most noncredit students were enrolled only at one campus and on average were enrolled in two courses. ESL mixed students took over four courses in noncredit on average and were the most frequently enrolled at more than one campus.

Graph 5

Number of Courses and Number of Campuses in Noncredit by Noncredit Program (Sequentially Enrolled Noncredit Only)



Graph 6 presents the noncredit campus from which students came. There were 36 percent of students from noncredit who had been enrolled at John Adams. Another 25 percent had been enrolled at the Downtown campus. Other campuses had smaller percents.

Graph 6

Campus of Origin (Sequentially Enrolled Noncredit Students Only)

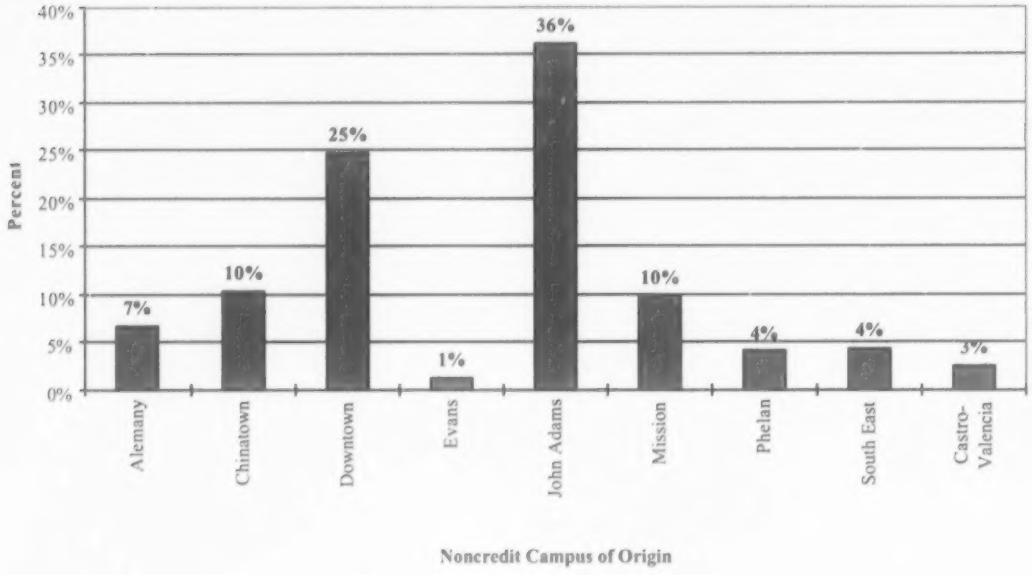


Table 1 presents information on the credit academic areas in which noncredit students enrolled in the Fall 1998. For example, students from noncredit Business enrolled in 5.33 credit units in the Fall 1998 semester on average. 1.37 of these units were in the school of Business. An additional 1.05 units were in the school of Mathematics and Science. Students from noncredit ESL enrolled in 7.26 units on average. 4.18 of these units (62 percent) were in credit ESL. Students from other noncredit programs such as Transitional Studies took courses much more evenly spread across the whole range of credit schools. Transitional Studies students also took equivalent numbers of units in credit to ESL students.

Table 1

Average Unit Load within Credit Schools by noncredit Academic Area

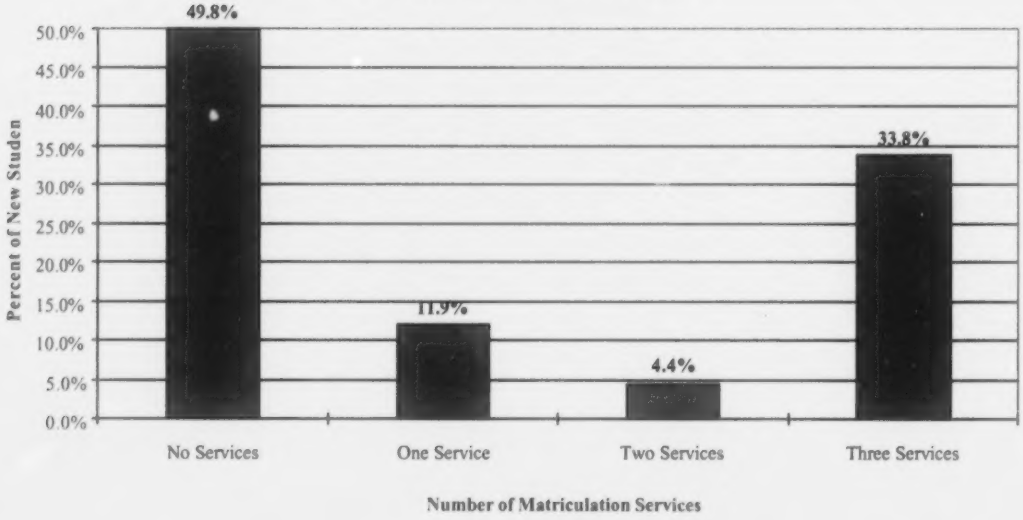
	CREDIT SCHOOLS									
NONCREDIT PROGRAMS	**Business**	**Liberal Arts**	**Social Sciences**	**Health**	**ESL**	**Applied Science**	**Library**	**Student Services**	**Math & Science**	**Total Load**
Business	1.37	0.89	0.56	0.32	0.88	0.17	0.03	0.06	1.05	5.33
Consumer Arts	0.1	1.45	0.1	0.52	0.07	1.33	0	0.03	0.1	3.7
Child Development	0.46	0.85	2.4	0.59	0.25	0.33	0	0.03	0.58	5.49
DSPS	0.48	2.01	1.16	0.69	0.32	0.14	0.01	0.16	1.88	6.85
ESL Mixed	0.59	0.39	0.38	0.22	3.65	0.16	0	0.08	1.24	6.71
ESL	0.42	0.53	0.45	0.28	4.18	0.27	0.01	0.02	1.1	7.26
Health Care	0.13	0.13	0.13	10.5	0	0	0	0	0.17	11.06
Health Sciences	0.35	1.93	0.6	0.74	0.07	0.23	0	0.05	0.75	4.72
Older Adults	0	1.92	0.16	0.7	0	0.35	0	0	0.32	3.45
Other Mixed	2.67	1.11	0.72	0.45	0.54	0.38	0	0.03	1.17	7.07
Other	0.36	1.28	0.48	0.61	0.16	0.27	0	0.08	1.02	4.26
Trade Skills	0.35	0.91	0.68	0.25	0.27	1.01	0	0.01	2.03	5.51
Transitional Studies	0.87	1.8	1.5	0.68	0.56	0.51	0	0.13	1.21	7.26
All	0.81	1.02	0.73	0.69	1.65	0.3	0.01	0.06	1.13	6.4

The Receipt of Matriculation Services

New credit students varied considerably in their receipt of matriculation services. About 50 percent of new students received no services. Another 33 percent received all three services (testing, orientation, and counseling). The remainder (17 percent) received only one or two services (graph 7).

Graph 7

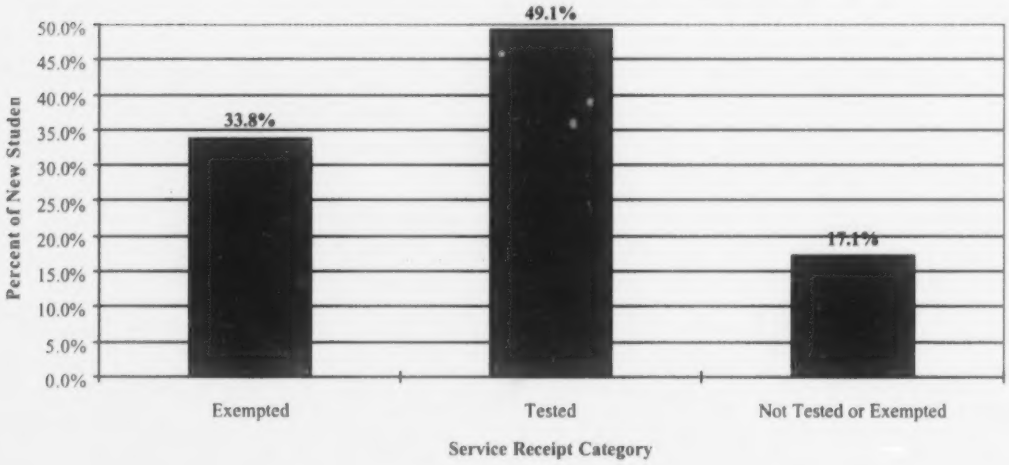
Receipt of Matriculation Services



The receipt of the testing service was examined in particular. 34 percent of students had received an exemption from testing. Another 49 percent had been tested. However, 17 percent had neither been tested nor exempted (graph 8).

Graph 8

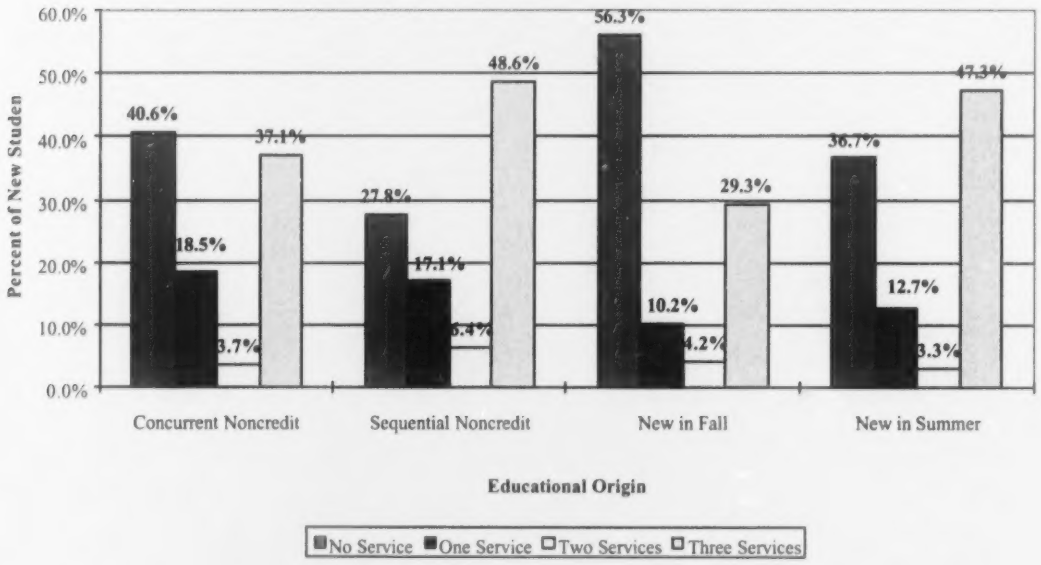
Receipt of the Testing Service



The receipt of matriculation services was broken down by educational origin (graph 9). Students new to CCSF in the Fall semester (versus students new in the summer or new from noncredit) were the least likely to have received matriculation services. 56.3 percent of these students fit this category.

Graph 9

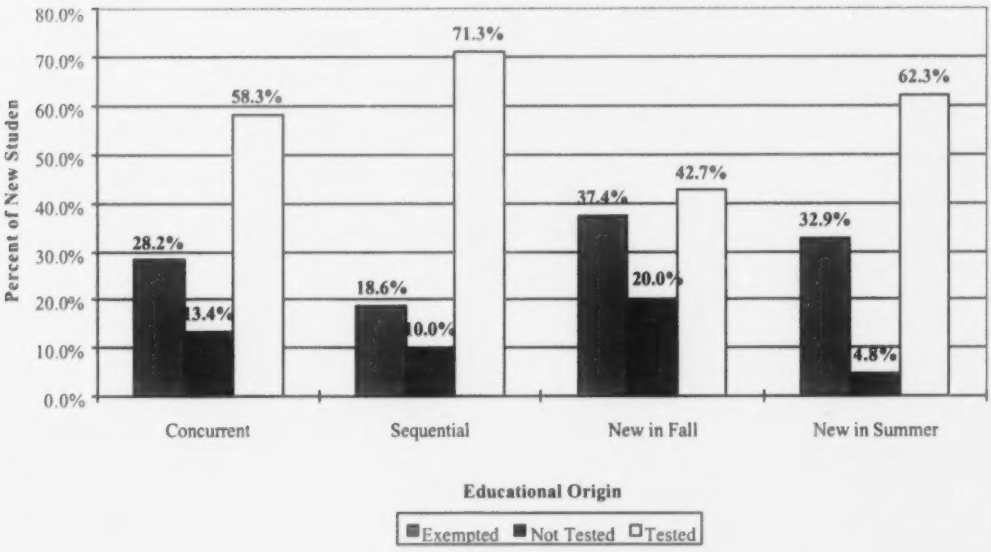
Receipt of Matriculation Services by Educational Origin



Moreover, 20 percent of this 'New in the Fall' group had neither been tested nor exempted from testing (Graph 10).

Graph 10

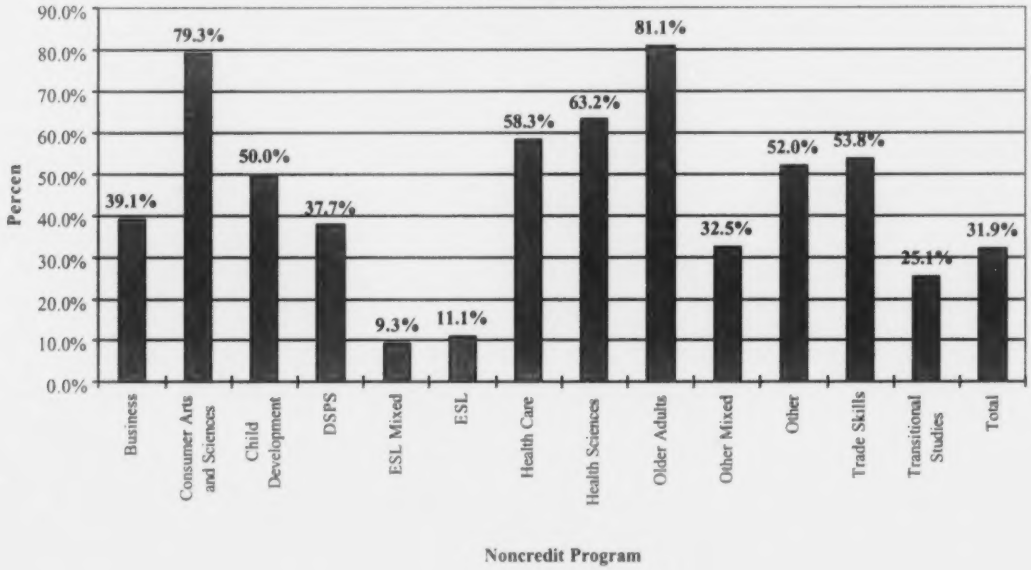
Receipt of the Testing Service by Educational Origin



Graph 11 presents, for each noncredit program, the percent of students who received no matriculation services. The receipt of matriculation services varied widely by noncredit program of origin. At the low end were students in ESL; only 10 percent of this group received no matriculation services. This percent rises to 80 percent for Consumer Arts and Science and Older Adult students.

Graph 11

New Students from Noncredit Receiving No Matriculation Services by Their Noncredit Program

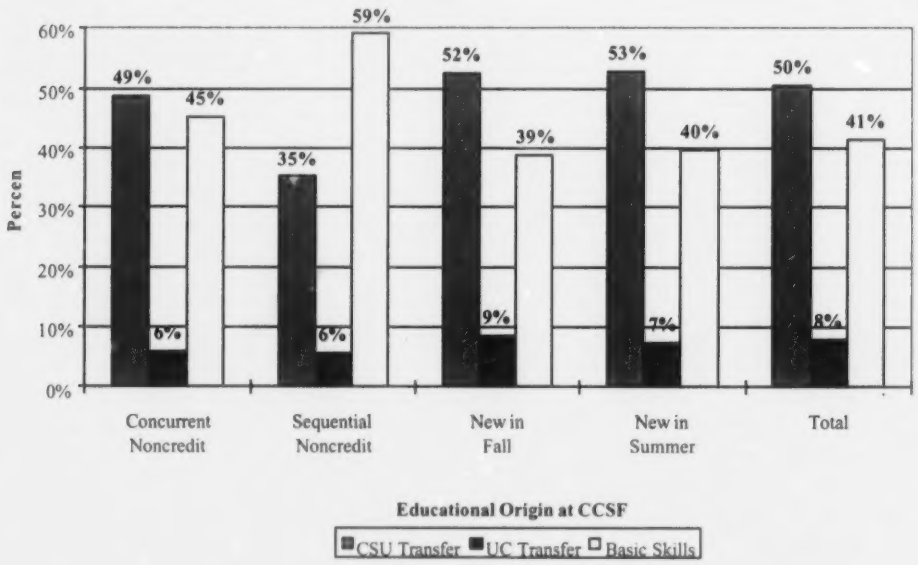


Placement

Graphs 12, 13 and 14 present student placement by educational origin. In English, three general placements are possible. The lowest level placement is Basic Skills. This placement involves from one to three semesters of remediation. At CCSF, 41 percent of students received a basic skills placement (Graph 12). The next highest level of placement is CSU transfer. Courses at this level, when successfully completed, can be transferred to the California State University (CSU) system. 50 percent of incoming students placed at this level. The highest level is UC transferable. These courses can be transferred to the University of California (UC) system. Eight percent of incoming students placed at this level. It should be noted that placement varied by educational origin. Students who had been sequentially enrolled in noncredit classes placed lower than other groups.

Graph 12

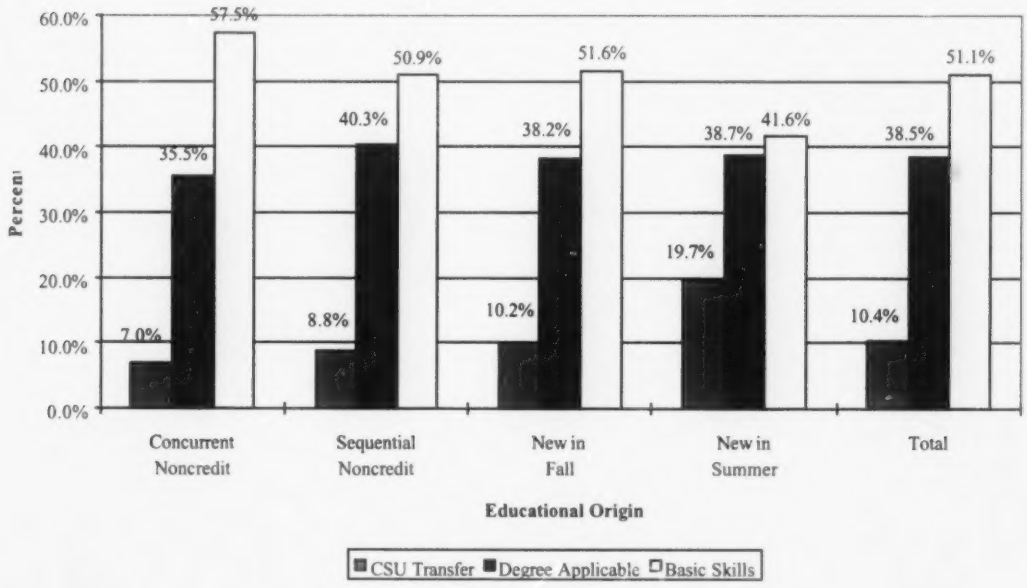
The English Placement of New Students by Their Educational Origin



In mathematics, 51 percent of students received a basic skills placement (Graph 13). An additional 10.4 percent placed at a CSU level. 38.5 percent received an intermediate placement referred to as degree applicable. That is, when these courses are passed, they may be applied toward graduation at CCSF. In the Fall 1998 semester, it was concurrently enrolled noncredit students who received the lowest placement while students new in the summer placed the highest.

Graph 13

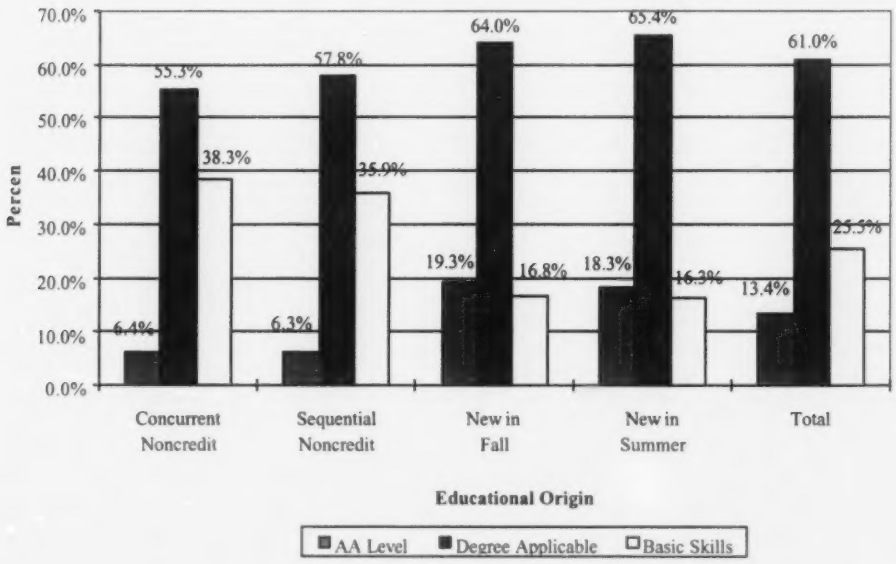
The Mathematics Placement of New Students by Their Educational Origin



In ESL, 25.5 percent of all students received a basic skills placement (Graph 14). 61 percent received the next higher placement (i.e. degree applicable). The highest level placement in ESL is the AA level. AA stands for Associate of Arts. These classes, when passed, satisfy the English language requirement for an AA degree. 13.4 percent of incoming students placed at this level. When examined by educational origin, 36 percent or more of students from noncredit received a basic skills placement versus fewer than 17 percent of students new in the summer or fall. It is in ESL that placement differences were the greatest between new students in general and new students from noncredit.

Graph 14

The ESL Placement of New Students by Their Educational Origin

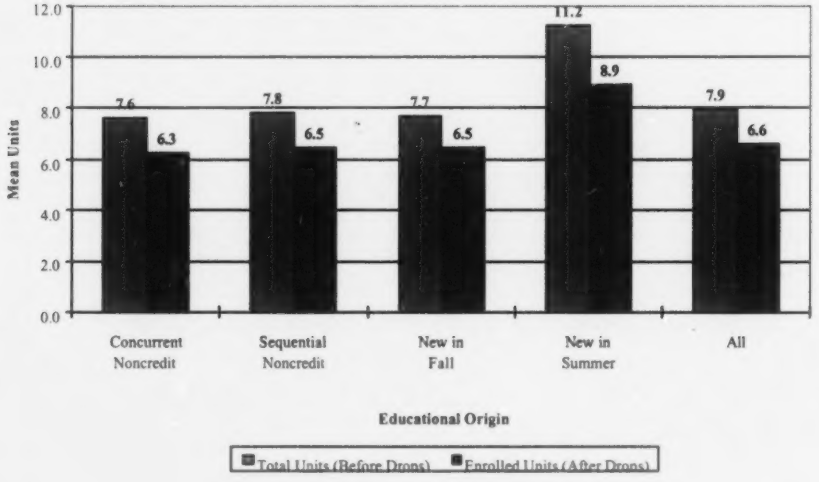


The Success of Students in the Fall Semester

Graphs 15 through 20 and Tables 2, 3 and 4 present data on students' performance in credit courses. Graph 15 presents total and enrolled units by students' educational origin. Total units is the number of units students signed up for. Enrolled units is the number of units taken for a grade (i.e. not dropped). Enrolled and dropped units add up to total units. Students who were new in the summer enrolled in the most units in the Fall. Students from noncredit enrolled in comparable numbers of units to other new students. Graph 16 (next page) presents the GPA of students by their educational origin. The GPA of concurrently enrolled noncredit students was higher than other groups. The percentages of units passed, withdrawn and dropped are presented in Graph 17. Passing percent is the percentage of students' enrolled units in which they get grades of A, B, C, or CR; withdrawal percent is the percent of enrolled units withdrawn ('W') with penalty; drop percent is the percent of total units signed up for but dropped without penalty. On these measures students from noncredit did similarly to other new students.

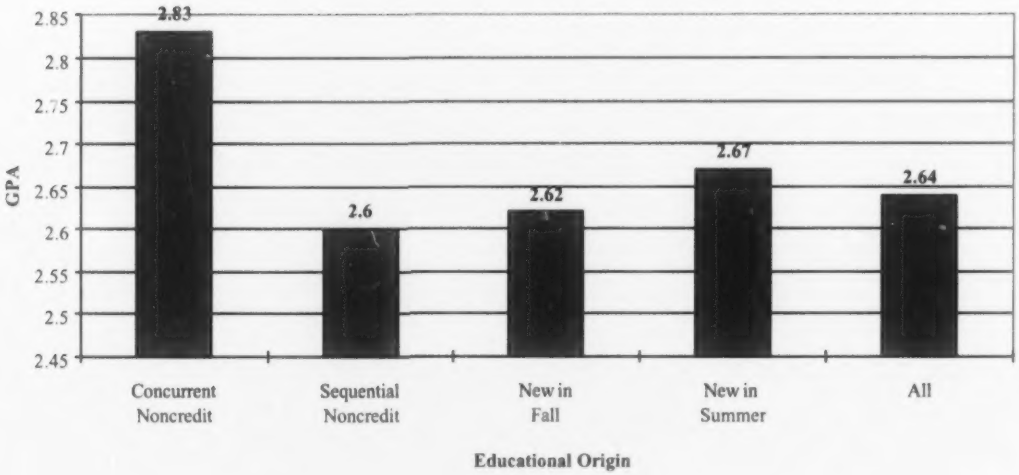
Graph 15

Total and Enrolled Units Credit Classes by Educational Origin



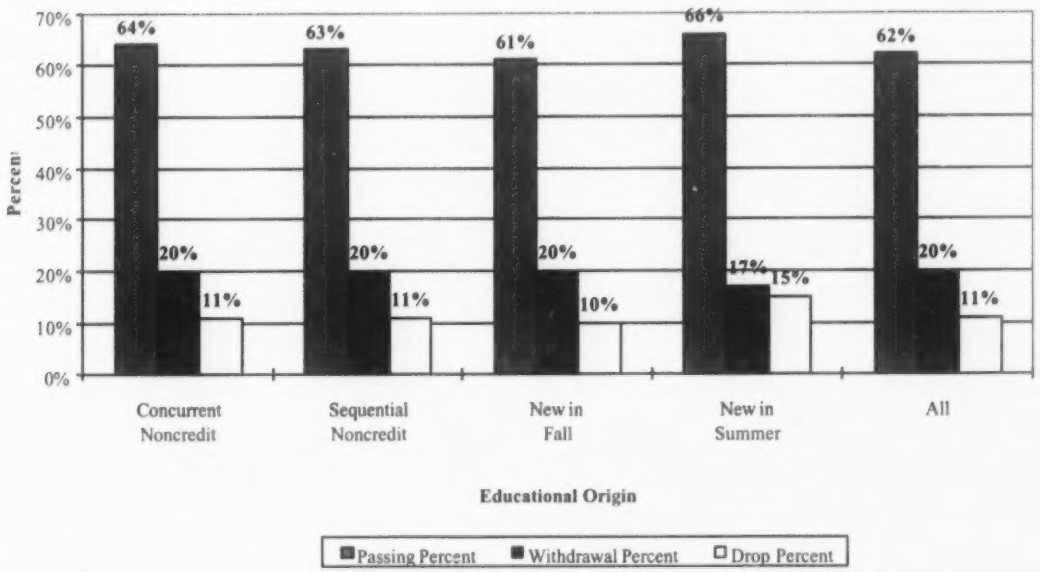
Graph 16

Credit GPA by Educational Origin



Graph 17

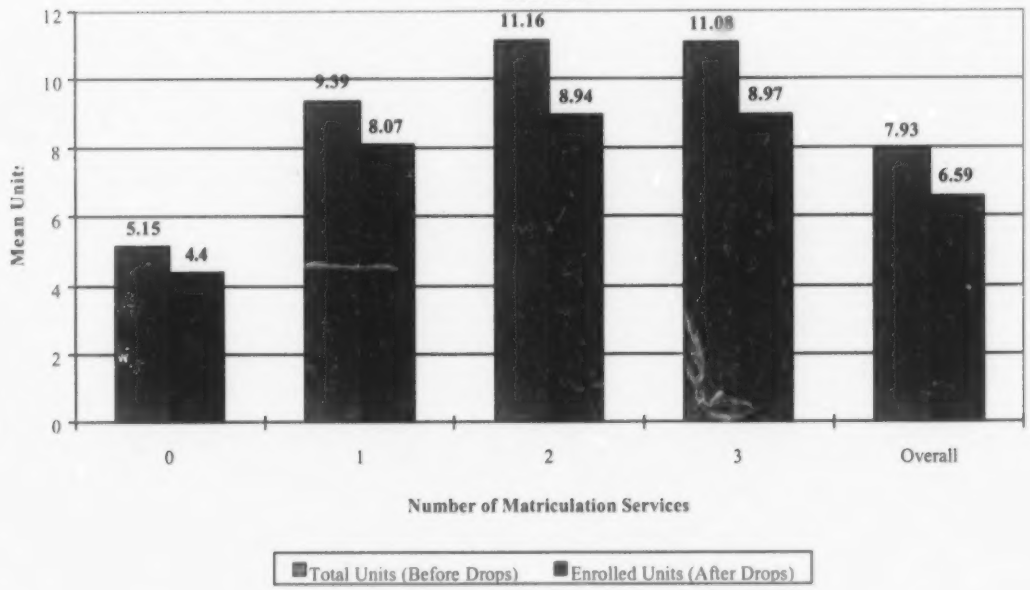
Percents of Units Passed, Withdrawn and Dropped



Graphs 18, 19 and 20 present data on student performance by the number of matriculation services they received. Graph 18 shows that students receiving no matriculation services enrolled in fewer units than others. Students receiving no services included both those students who had exempted from such services (for example Bachelor or Arts degree holders) and those students who should have received such services but did not. Graph 19 (next page) presents GPA for these groups. Students who received no matriculation services had a higher GPA than students who received one service or more. These differences are statistically significant ($p < .05$). Graph 20 presents the passing, withdrawal and drop percents of students who received matriculation services. These differences presented in graph 20 were not statistically significant.

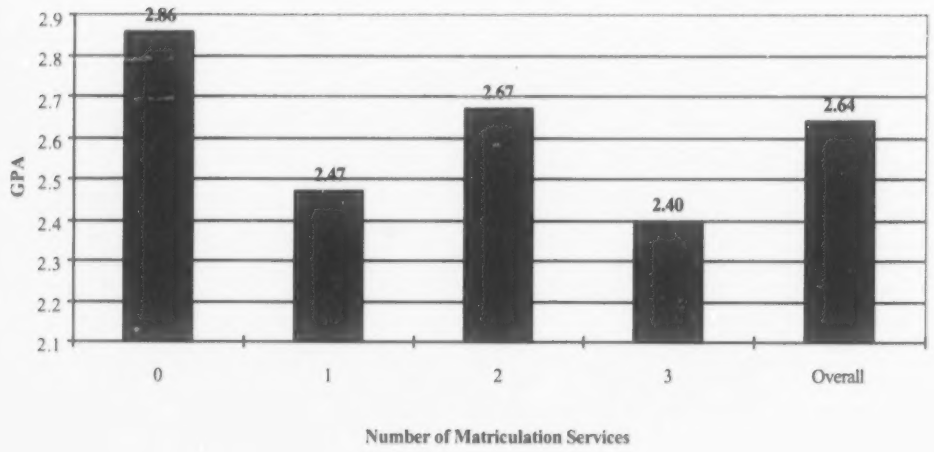
Graph 18

Total and Enrolled Fall 1998 Credit Units by Receipt of Matriculation Services



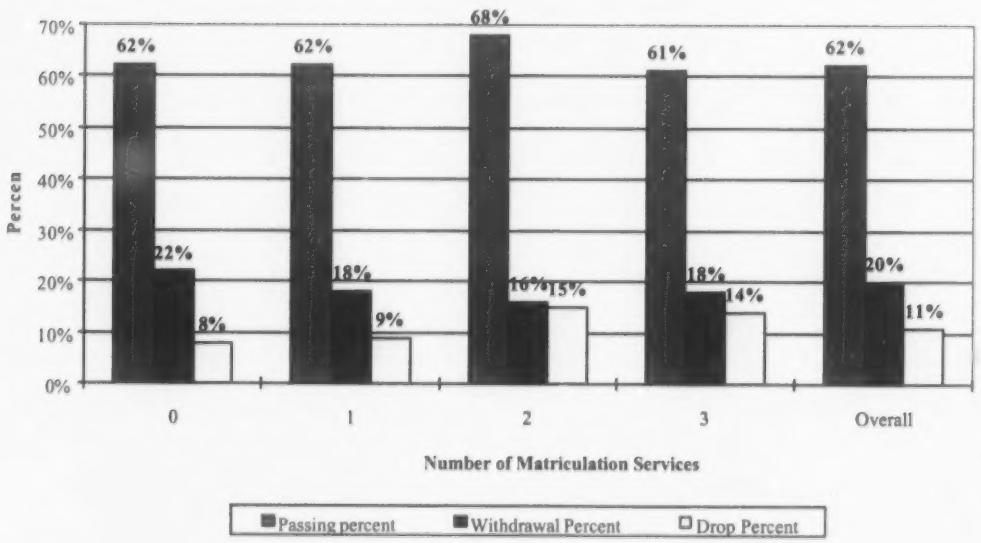
Graph 19

Credit GPA by Receipt of Matriculation Services



Graph 20

Passing, Withdrawal, and Drop Percents in Credit Classes by Receipt of Matriculation Services



Tables 2 and 3 present the success of students by their noncredit program of origin. Students from noncredit differed quite significantly (Table 2). Of the larger groups, students from ESL, Business and DSPS did similarly. Transitional studies students did much less well. Transitional studies withdrawal rates were high and their passing rates were low. Moreover, they were the only group whose average GPA was less than 2.0.

Table 2

Fall 1998 Performance of Credit Students by their Noncredit Program of Origin

NONCREDIT PROGRAMS	Enrolled Units	GPA	Passing Percent	Withdrawal Percent	Drop Percent
Business	5.32	2.79	65%	20%	11%
Consumer Arts and Scienc	3.71	3.26	69%	20%	6%
Child Development	5.49	3.01	70%	17%	13%
DSPS	6.85	2.82	63%	22%	14%
ESL Mixed	6.73	2.71	72%	16%	10%
ESL	7.24	2.71	68%	18%	12%
Health Care Technology	11.04	3.36	82%	15%	7%
Health Sciences	4.72	2.97	64%	23%	10%
Older Adults	3.46	2.93	57%	15%	11%
Other Mixed	7.06	2.52	53%	23%	11%
Other	4.26	2.28	52%	15%	12%
Trade Skills	5.41	2.57	57%	24%	6%
Transitional Studies	7.28	1.98	44%	26%	12%
All	6.39	2.67	63%	20%	11%

Table 3 presents GPA and passing percent for noncredit programs in four credit schools. These credit schools were chosen because they were heavily enough enrolled to offer valid comparisons of performance among noncredit groups. Performance measures are only presented where the number of students are at least 10. Once again, Transitional Studies students did the least well across academic schools. ESL students did as well as other noncredit students in credit schools outside of ESL.

Table 3

GPA in Four Academic Areas by Noncredit Program of Origin
(For Programs by Areas of 10 or more students. Shaded areas indicate fewer than 10 students.)

	GPA				Passing Percent			
NONCREDIT PROGRAM OF ORIGIN	Liberal Arts	Business	Behavioral and Social Sciences	Math and Science	Liberal Arts	Business	Behavioral and Social Sciences	Math and Science
Other Mixed	2.43	3.01	1.98	2.18	38%	64%	40%	43%
ESL Mixed	2.58	2.83	2.97	2.89	63%	69%	71%	70%
Business	3.09	2.62	2.77	2.78	60%	60%	74%	65%
ESL	2.98	2.53	2.62	2.86	70%	67%	65%	66%
DSPS	2.72	2.38	2.91	2.59	61%	49%	65%	62%
Transitional Studies	2.08	1.84	1.63	1.95	39%	42%	37%	39%
Health Sciences	2.96				53%			51%
Older Adults	2.83				54%			
Trade Skills	2.84			2.78	62%		67%	62%
Other	2.00				43%			52%
Child Development			3.19	3.20	43%		79%	83%
All	2.72	2.51	2.51	2.68	54%	59%	60%	60%

Table 4 presents performance by students' combined placement in English and mathematics. Four categories were defined. If students received a basic skills placement on both the English and mathematics tests they were categorized as 'Basic Skills Only'. If they received one basic skills and one higher level placement they were categorized as 'One Basic Skills'. If they received placements higher than basic skills but no transfer level placements they were categorized as 'Two non-Basic Skills'. Finally if they received one or two transfer level placements and no basic skills placement they were categorized as 'One or Two Transfer'. Given these definitions, students both enrolled in more units and did better the higher their

Table 4

Performance by Level of Placement in English and Mathematics

Placement Status	Enrolled Units	GPA	Passing Percent	Withdrawal Percent
Basic Skills Only	8.54	1.98	47%	24%
One Basic Skills	9.19	2.22	56%	20%
Two non-Basic Skills	9.58	2.5	64%	18%
One or Two Transfer	11.42	2.77	78%	8%

placement. Differences in all measures were substantial. Percentage of classes passed increased from 47 percent at a 'Basic Skills Only' placement level to 78 percent at a transfer level. GPA showed a similar increase. Enrolled units also increased as placement increased.

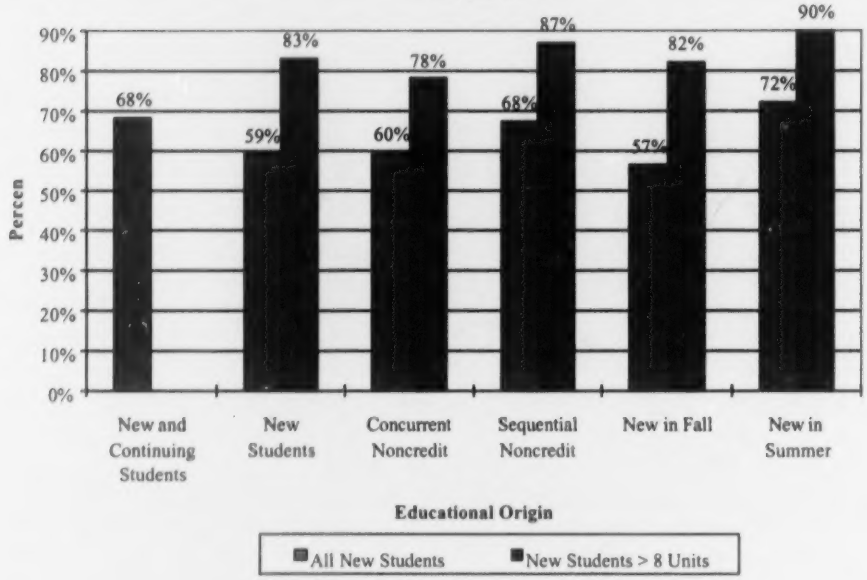
Persistence to the Spring 1999 Semester

Graphs 21 through 24 and Table 5 present information on the persistence of Fall 1998 credit students to the Spring 1999 semester. Graph 21 presents Spring re-enrollment percentages for all students, all new students and for new students by their educational origin. It also presents re-enrollment percentages broken out for students who were enrolled in 9 or more units in the Fall.

Of all Fall students, 68 percent re-enrolled in the Spring. This percent dropped to 59 percent for new students. For new students enrolled in more than eight units in the Fall, 83 percent re-enrolled in the Spring. New students from noncredit re-enrolled in equivalent percentages to other new students. Students who started in the summer, however, re-enrolled in the highest percentages.

Graph 21

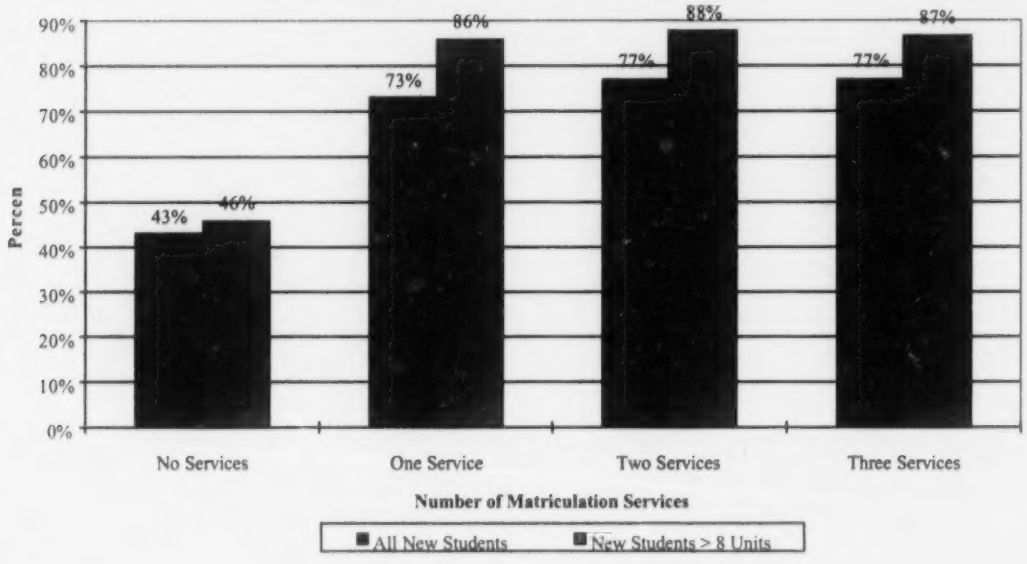
Re-Enrollment Percent of All Students and Students Enrolled in More Than Eight Units



When re-enrollment was examined by number of matriculation services received in graph 22, a truly surprising statistic surfaced. Only 43 percent of all new students (and 46 percent of new students enrolled in more than eight units) who received no matriculations services (including exempted students) re-enrolled in the Spring. This compares to 73 percent or more of students who received at least one matriculation service.

Graph 22

Re-Enrollment in the Spring of All New Students and Students Enrolled in More Than Eight Units by the Receipt of Matriculation Services



An interesting question arises about the relationship between re-enrollment in the Spring and success in the Fall. How exactly are success and re-enrollment related? Table 5 presents the relationship. It presents a look back from Spring re-enrollment/no enrollment to the prior Fall performance. Students who re-enrolled in the Spring had taken more units in the Fall and had done better than students who did not persist. The differences were quite large. For example, students failing to re-enroll had withdrawn from 34 percent of their Fall units. This compares to 11 percent for students who continued in the Spring. Students who continued had passed 75 percent of their units. This compares to 41 percent for students who did not continue. The conclusion is important and has been noted in other reports: success and persistence are related. Successful students tend to continue their college education.

Table 5

Fall 1998 Performance of Re-enrolled and Non Re-enrolled Students in the Spring Semester 1999

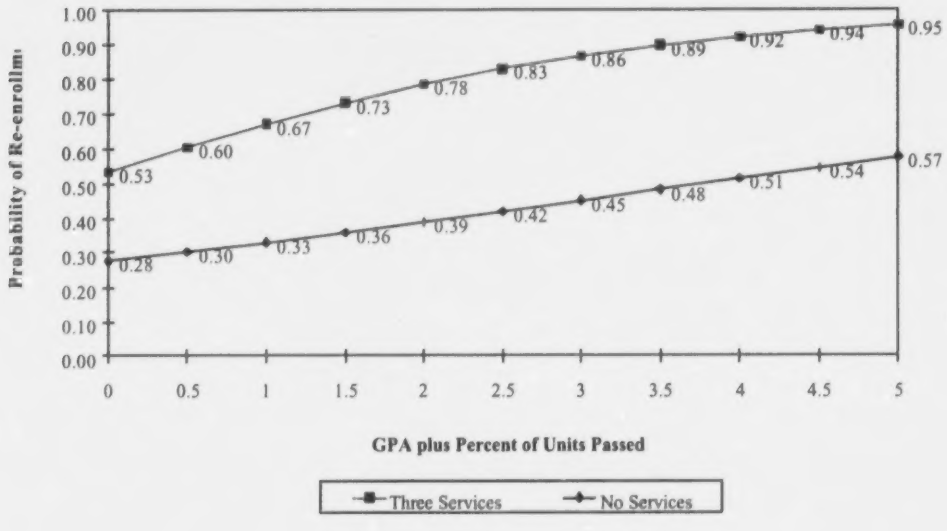
	Fall 1998 Performance				
Spring 1999	Enrolled Units	GPA	Passing Percent	Withdrawal Percent	Drop Percent
Re-Enrollment	9.46	2.81	75%	11%	11%
No Enrollment	5.68	2.23	41%	34%	10%

An additional important question addresses the relationship between the three variables of persistence, success and matriculation services. Graph 23 presents the predicted relationship (from logistic analysis of the data) between these three. The graph presents the probability of re-enrollment at various levels of Fall success. Fall success is defined as GPA plus percent of units passed. As such, this measure runs from zero for failure in all classes, up to 3.0 for all C's (GPA of 2 + passing percent of 1), to 5.0 for all A's. The top line presents the probability of re-enrollment at various levels of success for students who received three matriculation services. The bottom line presents the same relationship for students who had received no services and who had not been exempted from the testing service. The top line starts at .53 where the percentage of units passed plus GPA equals zero. This means that about half of the students who received three matriculation services but then failed all their classes re-enrolled in the Spring. This same line increases and reaches .95 (95 percent probability of re-enrollment) for students who had a GPA of 4, and who passed all their classes (GPA plus passing percent of 5.0).

The top line contrasts sharply with the lower line. The lower line represents the probability of re-enrolling for students who received no matriculation services. Note here that the probability of re-enrollment starts at .28. This means that the predicted probability of re-enrollment for non-matriculated students who failed all their classes is 28 percent. For non-matriculated students, the probability of leaving school exceeds that of staying (is below 50 percent) at all success levels below 4.0. Only at success rates above 4.0 do these non-matriculated students re-enroll in greater percentages than they drop.

Graph 23

Predicted Probability of Re-Enrollment Given Success and the Receipt of either Zero or Three Matriculation Services (Non-exempt students only)



Three statements can be made about this graph. First, at all levels of success non-matriculated students are less likely to re-enroll than matriculated students. This is inferred by the fact that the top line which represents matriculated students is above the lower line which represents non-matriculated students . Second, both lines rise. This indicates that the probability of re-enrollment increases as success increases for both groups. Third, the slopes of these lines differ. Of the two lines, the line for matriculated students is somewhat steeper through the middle ranges of success than the one for non-matriculated students. This indicates that matriculated students are more sensitive to success (or alternately failure) than similarly successful non-matriculated students. Matriculated students are more likely to persist as their success increases or leave school as it declines. Non-matriculated students' persistence is less influenced by their Fall success. Implications of these findings for counseling will be discussed at the end of this report.

Graph 24 addresses the relationship between re-enrollment and Fall placement. Basic-skills placed students were less likely to re-enroll than more highly placed students. Percentages range from 72 percent for students who received two basic skills placements to 91 percent for students who received one or two transfer level placements. Since basic-skills placed students were also less successful in the Fall, the question arises as to whether their lower re-enrollment is a function of their placement or their lack of success. That issue was investigated but the statistical analysis is not presented here. The conclusion of that analysis is, however, that lack of re-enrollment of basic-skills placed students was entirely explained by their lack of Fall success and not by their placement status.

Graph 24

Re-enrollment in the Spring by Placement Level (English and Mathematics Only)

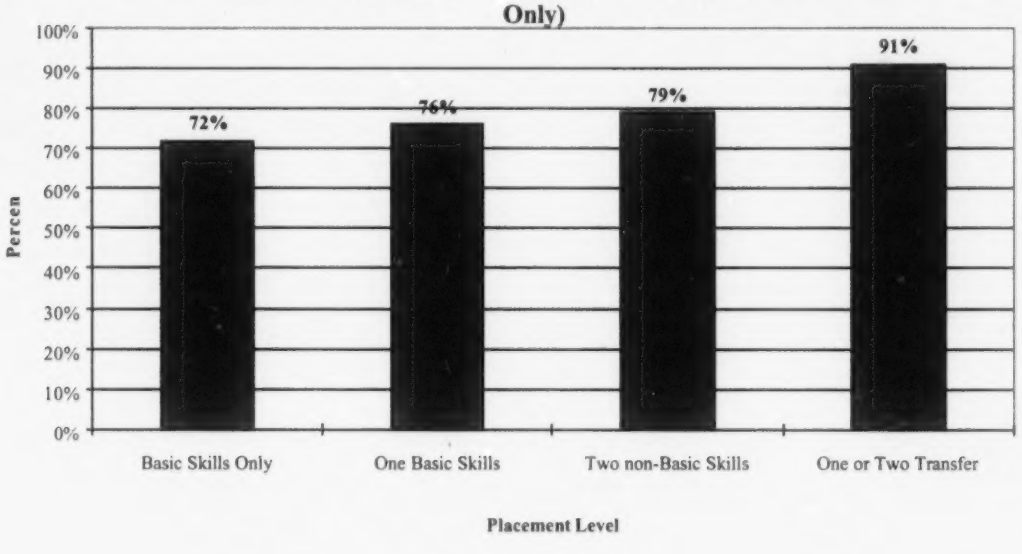


Table 6 presents the re-enrollment in the Spring semester for noncredit students by their noncredit program and their receipt of matriculation services. Here it is apparent that in most programs, students who received no services were less likely to persist to the Spring than students who received one service or more. The number of students in many categories is small so results should be interpreted cautiously.

Table 6

Spring Re-enrollment by Noncredit Program and Number of Matriculation Services Received

NONCREDIT PROGRAMS	No Services	One Service	Two Services	Three Services	All
Business	44%	74%	55%	81%	64%
Consumer Arts and Sciences	61%	100%		50%	62%
Child Development	39%	90%	63%	67%	56%
DSPS	49%	72%	64%	76%	64%
ESL Mixed	63%	86%	50%	81%	78%
ESL	51%	79%	74%	77%	74%
Health Care Technology	43%	40%	80%	40%	46%
Health Sciences	58%	50%	80%	71%	63%
Older Adults	63%	67%	0%	50%	59%
Other Mixed	46%	77%	100%	59%	61%
Other	38%	25%	50%	64%	44%
Trade Skills	42%	40%	75%	61%	48%
Transitional Studies	40%	61%	100%	67%	61%

Conclusions

Needless to say, these findings have far reaching ramifications. Obviously, in order for students to attain their longer term educational goals, they must both succeed in their initial courses and persist to following semesters. It is therefore important to look at not only success, but also persistence and the interrelationship between them. Their examination may lead to the identification of strategies that can influence one or the other or both.

In a previous report[1], the impact of matriculation services on success was examined. It was found in that report that the major impact of matriculation services was in a narrowing of the grade distributions of matriculated students in comparison to those who had received no services. Matriculated students had more B's, C's and D's and fewer A's, F's, and W's. As a consequence the receipt of matriculation services had a slight positive effect on passing and withdrawal percents but not on GPA. The findings on initial success in this report are quite similar to those from this prior report, but have not been commented on up to this point. Fall 1998 students who received matriculation services, like Fall 1995 students in the prior report, had a narrowing of grade distributions leading to slightly fewer withdrawals and a slightly larger percentage of units passed. However, the differences are not great.

This report extends the investigation of matriculation services beyond initial success to persistence to a following semester. It was found that matriculation services was quite strongly related to re-enrollment; students who received services were much more likely to re-enroll than others. It appears that success also increased persistence independently of matriculation services. Moreover there was an interaction effect between services and success. The differences in re-enrollment between matriculated and non-matriculated students tended to be greater at higher levels of success and less at lower levels of success. This means that matriculated students were more sensitive to and more affected by their success (or lack thereof) than non-matriculated students. It suggests that after being tested, oriented and counseled, new students should be monitored to ensure that their potential lack of initial success does not derail them from their educational course.

The finding that basic-skills placed students left school as a result of their Fall semester failure and not due to their initial placement suggests that if these students had more success through improved remediation, then they would re-enroll in greater numbers. All in all, the services that students receive upon entrance to the college may have a larger impact on students' long term persistence and goal attainment than has been previously believed. If so, these services would provide a necessary bridge for new students to cross on the way to the achievement of their academic goals.

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[1] The Impact of Matriculation Services on Student Progress and Success at City College of San Francisco.

Additional Research

A number of research projects present themselves. These are listed below.

- Given the relationship between students' entering ability as seen through their placement, initial success and persistence to the following semester, it seems sensible to try to characterize the differences between successful and unsuccessful students at each ability level. For basic-skills placed students, for example, what leads some to overcome their ability difficulties and succeed while others succumb, lose hope and drop out? Is it possible to characterize the approach of successful students - especially their use of educational resources - at various placement levels? If so, it might be possible to devise interventions for students at risk of failure.

- A second avenue of research is to look at this data again but with a focus on degree-seeking students.

- A third area of research would be to track all noncredit students forward to see who is and is not enrolling in credit classes. We might be able to identify those students who are not currently going on to credit but probably could do so successfully. Do they face problems the institution can address? Why do some students make the transition from noncredit to credit and others fail to make that transition?

- Last, it would be possible to set up a research report facility to generate comparable statistics to the ones presented here so that student performance in future semesters can be compared to current performance. This would provide a longitudinal measure of institutional effectiveness that may well vary over time.